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| 10/597,346 | 08/23/2006 | Jeffrey P. Reistroffer | | 9676 |

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| EXAMINER |
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JOHNSON, STEPHEN

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12/10/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|---------------------------------------|--|--|
| Office Action Summary | Application No. 10/597,346 | Applicant(s) REISTROFFER, JEFFREY P. | |
| | Examiner Stephen M. Johnson | Art Unit 3641 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-75 is/are pending in the application.
- 4a) Of the above claim(s) 30,31,37,40,41, 43, and 47-75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29,32-36,38,39,42 and 44-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-75 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>9/14/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant's election without traverse of group I (a linear incendiary strand) and species B (figs. 3-4) in the reply filed on 10/25/2010 is acknowledged.

Claims 30-31, 37, 40-41, 43, and 47-75 are withdrawn from consideration as being directed to non-elected groups and/or species. Claims 1-29, 32-36, 38-39, 42, and 44-46 read on the elected group invention and species and an action on these claims follows.

2. Claims 1-29, 32-36, 38-39, 42, and 44-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant asserts that the claim element "rapid linear ignition means" (claim 1); "reinforcing means" (claim 1); and "weatherproofing means" (claims 44-46) is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, it is unclear whether the claim element is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph, because the terms "means for" and an associated function have not been claimed. If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to:

(a) Amend the claim to include the phrase "means for" or "step for" in accordance with these guidelines: the phrase "means for" or "step for" must be modified by functional language and the phrase must **not** be modified by sufficient structure, material, or acts for performing the claimed function; or

(b) Show that the claim limitation is written as a function to be performed and the claim does **not** recite sufficient structure, material, or acts for performing the claimed function which

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would preclude application of 35 U.S.C. 112, sixth paragraph. For more information, see MPEP § 2181.

Claim element “means for fragmentation” (claims 35 and 36) is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

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Claim 5 is indefinite because it does not include all of the limitations from which the claim depends. Note that claim 4 requires the filler to be “cellulose fibers” but claim 5 does not.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 11-15, 19-22, 32-33, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Burns et al. (7,097,203).

Burns et al. (203) disclose a linear incendiary strand comprising:

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|--|-------------------------|
| a) a solid fuel component; | 33; col. 3, lines 39-54 |
| b) a rapid linear ignition means; | 30; col. 3, lines 28-35 |
| c) reinforcing means; | 12; (see fig. 2) |
| d) a silicon rubber fuel; | 33; col. 3, lines 39-44 |
| e) a filler; | col. 3, lines 48-50 |
| f) the ignition means is an elongate pyrotechnic element; | 30 |
| g) an elongate channel; | see fig. 2 |
| h) an exterior sheath; | 12 |
| i) an exterior sheath that is a coated fabric composition; | 28; col. 3, lines 3-15 |

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With regard to claims 12 and 13, note that claim limitations directed to the way in which a device operates are not further limiting in the confines of a device or apparatus claim (see in re Dike, 157 USPQ 581 (CCPA 1968)).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 11-16, 19-22, 32, 35, 38-39, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Reihlen (1,693,818).

Reihlen (818) disclose a linear incendiary strand comprising:

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|-----------------------------------|--------------------------|
| a) a solid fuel component; | 2; page 1, lines 85-110 |
| b) a rapid linear ignition means; | 1; page 1, lines 85-110 |
| c) reinforcing means; | 3; page 1, lines 106-110 |
| d) an elongate channel; | see fig. 7 |
| e) an exterior sheath; and | 3 |
| f) a means for fragmentation. | 3'' |

With regard to claims 12 and 13, note that claim limitations directed to the way in which a device operates are not further limiting in the confines of a device or apparatus claim (see in re Dike, 157 USPQ 581 (CCPA 1968)).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-3, 5-6, and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Schick (3,402,032).

Reihlen (818) applies as recited above. However, undisclosed is a specific type of fuel component that includes a fuel component that is either a hydrocarbon, resin, or polyethylene; a filler that is sawdust; an oxidizer; and a water-resistant composition.

Schick (032) teaches a specific type of fuel component that includes a fuel component that is either a hydrocarbon, resin, or polyethylene (col. 4, lines 34-74); a filler that is sawdust (abstract); an oxidizer (col. 4, lines 38-48); and a water-resistant composition (col. 4, lines 67-74). Applicant is substituting one fuel component for another in an analogous art setting with expected or predictable results (see *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007)). It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Schick to the Reihlen incendiary strand and have an incendiary strand with a different type of fuel component material.

9. Claims 2-4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Campbell (3,697,668).

Reihlen (818) applies as recited above. However, undisclosed is a specific type of fuel component that includes a fuel component that is either a hydrocarbon or resin; a filler that is cellulose fibers; and an oxidizer. Campbell (668) teaches a specific type of fuel component that includes a fuel component that is either a hydrocarbon or resin (col. 2, lines 26-32); a filler that is cellulose fibers (col. 4, lines 5-21); and an oxidizer (col. 9,

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lines 24-29). Applicant is substituting one fuel component for another in an analogous art setting with expected or predictable results (see *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007)). It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Campbell to the Reihlen incendiary strand and have an incendiary strand with a different type of fuel component material.

10. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Fronabarger (3,793,100).

Reihlen (818) applies as recited above. However, undisclosed is a pyrotechnic ignition strand that is composed of a mixture of an oxidizing agent, a fuel component, and a binder. Fronabarger (100) teaches a pyrotechnic ignition strand that is composed of a mixture of an oxidizing agent (col. 2, lines 55-64), a fuel component (col. 2, lines 55-64), and a binder (col. 4, lines 35-42). Applicant is substituting one pyrotechnic ignition strand material for another in an analogous art setting with expected or predictable results (see *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007)). It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Fronabarger to the Reihlen incendiary strand and have an incendiary strand with a different material type of pyrotechnic ignition strand.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Fronabarger (3,793,100) as applied to claims 23-24 above, and further in view of Ellis et al. (5,384,238).

Reihlen (818) and Fronabarger (100) apply as recited above. However, undisclosed is a binder material that is cellulose acetate butyrate. Ellis et al. (238) teach a binder material

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that is cellulose acetate butyrate (col. 9, line 62 to col. 10, line 15). Applicant is substituting one type of binder material for another as explicitly encouraged by the secondary reference (see col. 9, line 62 to col. 10, line 15 of Ellis et al.) with expected or predictable results. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Ellis et al. to the incendiary strand of Reihlin in view of Fronabarger and have an ignition material that includes a binder of cellulose acetate butyrate.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Fronabarger (3,793,100) as applied to claims 23-24 above, and further in view of Eber et al. (6,511,520).

Reihlen (818) and Fronabarger (100) apply as recited above. However, undisclosed is a fuel material that is a conifer tree resin. Ellis et al. (238) teach a fuel material that is a conifer tree resin (see claim 12). Applicant is substituting one type of fuel material for another in an analogous art setting with expected or predictable results. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Eber et al. to the incendiary strand of Reihlin in view of Fronabarger and have an ignition material that includes a fuel of conifer tree resin.

13. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Olander et al. (5,976,293).

Reihlen (818) applies as recited above. However, undisclosed is an explosive material casing that is composed of fibers in a composite matrix. Olander et al. (293) teach an explosive material casing that is composed of fibers in a composite matrix (16, 20).

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Applicant is substituting one casing material for another in an analogous art setting with expected or predictable results. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Olander et al. to the Reihlen linear incendiary strand and have a linear incendiary strand of a different material type.

14. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reihlen (1,693,818) in view of Rice et al. (3,263,613).

Reihlen (818) applies as recited above. However, undisclosed is a pyrotechnic ignition strand that is composed of a mixture of an oxidizing agent, a fuel component, and woven cotton or paper substrate. Rice et al. (613) teaches a pyrotechnic ignition strand that is composed of a mixture of an oxidizing agent (col. 4, lines 13-28); a fuel component (col. 4, lines 13-28), and a woven cotton or paper substrate (col. 2, lines 37-45). Applicant is substituting one pyrotechnic ignition strand material for another in an analogous art setting with expected or predictable results (see *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007)). It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Rice et al. to the Reihlen incendiary strand and have an incendiary strand with a different material type of pyrotechnic ignition strand.

15. Claims 1, 11-15, 19-22, 32-33, 35-36, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (RE 38,592).

Wu et al. (592) discloses a linear incendiary strand comprising:

a) a solid fuel component;

50A, 50B, 50C

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- | | |
|---|---------------------|
| b) a rapid linear ignition means; | 67, 66, 68, 70 |
| c) reinforcing means; | 48A, 48B, 48C |
| c') reinforcing means is a hull of paper and threads; | col. 2, lines 55-59 |
| d) an elongate channel; | see fig. 2 |
| e) an exterior sheath; and | 48A, 48B, 48C |
| f) a means for fragmentation. | 62 |

With regard to claims 12 and 13, note that claim limitations directed to the way in which a device operates are not further limiting in the confines of a device or apparatus claim (see in re Dike, 157 USPQ 581 (CCPA 1968)).

16. Claims 9-10, 17-18, and 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Johnson whose telephone number is 571-272-6877 and whose e-mail address is (Stephen.Johnson@uspto.gov). The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The Central FAX phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 800-786-9199.

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/Stephen M. Johnson/
Primary Examiner, Art Unit 3641

SMJ

December 8, 2010